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MAPPING THE PROJECTIONS OF CHILD VARIABLES UPON A SPECIAL PARENT BEHAVIOR MODEL AND VICE VERSA.

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SPHERICAL MODELS OF PARENT BEHAVIOR AND OF SELF-REPORTED PERSONALITY ADJUSTMENT WERE CONSTRUCTED IN AN ATTEMPT TO EXAMINE INTERRELATIONSHIPS OF THE VARIABLES OF THOSE DOMAINS. THE THREE MAJOR DIMENSIONS OF PARENT BEHAVIOR ARE DESCRIBED AND EMPLOYED--(1) ACCEPTANCE VS. REJECTION, (2) PSYCHOLOGICAL CONTROL, AND (3) LAX VS. FIRM CONTROL. THE THREE DIMENSIONS OF PERSONALITY ADJUSTMENT EMPLOYED WERE SEVERE MALADJUSTMENT AND NEUROTIC REPRESSION (REPLICATING WELSH'S TWO MMPI FACTORS OF A AND R), PLUS A THIRD FACTOR OF INTROVERSION VS. EXTROVERSION. COMPARISON OF PERSONALITY AND BEHAVIOR SCALES WITH THE MODEL SPHERES SHOWED THAT SELF-REPORTS OF MALADJUSTMENT TEND TO BE MOST HIGHLY RELATED TO A SECTOR OF PARENT BEHAVIOR THAT FALLS BETWEEN PSYCHOLOGICAL CONTROL AND REJECTION. REPORTS OF DEVIANT PARENTAL BEHAVIOR ARE MOST HIGHLY RELATED TO SELF-REPORT OF SEVERE MALADJUSTMENT AND INTROVERSION. LIMITATIONS NOTED WERE THE NEED TO DEVELOP CONCEPTS FOR THE MANY EMPTY SECTORS OF THE CONCEPTUAL SPACES AND THE NEED FOR MORE ADEQUATE SAMPLES, METHODS, AND MEASURES. HOWEVER, THESE PRELIMINARY MAPPINGS OF CHILD VARIABLES UPON A PARENT BEHAVIOR SPHERE SUGGEST THAT THIS MAY BE A PROMISING APPROACH TO INTEGRATION OF MULTIVARIATE STUDIES OF PARENT-CHILD RELATIONSHIPS. THIS PAPER WAS DELIVERED AT THE AMERICAN PSYCHOLOGICAL ASSOCIATION CONFERENCE (CHICAGO, SEPTEMBER 4, 1965). (BB)

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Mapping the Projections of Child Variables Upon a Spherical Parent Behavior Model and Vice Versa*

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In the many current studies of parent-child relations we find hundreds of variables, and thousands of intercorrelations. Clearly we need methods with which to integrate and effectively communicate these studies. A wish to synthesize parent behavior concepts into a unified conceptual scheme has led a number of investigators to develop two-dimensional (Roe, 1957; Schaefer, 1959; 1961; Slater, 1962) and more recently, three-dimensional conceptual models for parent behavior (Roe & Siegelman, 1963; Becker, 1964; Siegelman, 1965; Schaefer, In press) while others have been developing parsimonious conceptual models for personality variables and for social and emotional behavior. Recently I have suggested that the different dimensions of parent behavior that have been proposed might be visualized as sectors of a parent behavior sphere. What we will do today is to present a stereographic projection, a map, of a parent behavior sphere with reference dimensions of Acceptance vs. Rejection, Psychological Control, and Lax vs. Firm Control; and will show the projections of personality inventory scales upon the map of parent behavior. We will present a map of a personality sphere that replicates Welch's two MMPI factors of A and R and adds a third factor of Introversion vs. Extraversion; and will

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show the projections of parent behavior scales upon the map of self-reports of adjustment.

Method

The 154 subjects, enlisted personnel on the staff of an army hospital, were administered the MMPI, the Guilford Inventory of Factors STDCR, and were asked to give retrospective reports of maternal and paternal behavior on the Child's Report of Parental Behavior Inventory (Schaefer, 1965). The personality inventory scales (MMPI and Guilford), the reports of maternal behavior and the reports of paternal behavior were factor analyzed separately. The retention of three factors for orthogonal varimax rotation for all analyses was determined by the results of the factor analysis, and by the number of replicable and interpretable factors that had been found in previous analyses of parent behavior and personality scales (Welch, 1956; Roe & Siegelman, 1963; Siegelman, 1965; Schaefer, In press). The loadings of the personality scales upon the parent factors and the loadings of the parent behavior scales upon the personality factors were determined using the method of extending a factor matrix proposed by Dwyer (1937) as described by Cattell (1952). The projection of each variable upon a sphere generated by the three factors was computed as was the communality of the variable for the three dimensional space. Stereographic projections of the spheres were used to generate maps of these conceptual spaces.

Results

A map of one hemisphere of paternal behavior is shown in Figure 1. Adjacent to each scale is its communality for this three-space. Typically the communality is approximately equal to the internal consistency

reliability of the variable. The pole of Psychological Control is seen in the center of the map with the scales of Intrusiveness, Parental Direction and Control through Guilt having loadings in that sector. To the right is the sector of Acceptance as represented by Sharing, Expression of Affection, Emotional Support, etc., and to the left is a sector of Hostile Rejection as represented by the scales of Irritability, Neglect, Ignoring, and Rejection. The vertical axis might be labelled Lax vs. Firm Control with loadings on Lax Discipline, Extreme Autonomy and Moderate Autonomy. In future studies it should be possible to develop additional scales that might fill the empty sectors of this map of parent behavior. Also plotted on Figure 1 are the MMPI and Guilford scales that have loadings above .30 for some sector of the parent behavior space. We see that most of the personality scales plot in a limited sector of the parent behavior space that falls between Rejection and Psychological Control. Pt plots nearer to the sector of Psychological Control while Si, F, and TiG plot nearer to the sector of Neglect and Ignoring.

In Figure 2 the sectors of Acceptance, Hostile Indifference or Rejection, Psychological Control, Lax Control and Firm Control again appear in the plot of the maternal behavior scales. The MMPI and Guilford scales that have significant loadings on the maternal behavior space again are plotted between Psychological Control and Rejection but nearer to the sector of Psychological Control for mothers than for fathers. These data suggest that inventory reports of maladjustment are more highly correlated with reports of hostile indifference of fathers than of mothers but more with hostile involvement of mothers than of fathers.

A mapping of the factor structure of the Guilford and MMPI scales is reported in Figure 3. The central pole of this map, the locus of the major factor, is defined by the MMPI scales of Sc, F, and Pt. This sector might be interpreted as a sector of reports of severe maladjustment and clearly replicates the major MMPI factor that Welch has labelled A. The horizontal dimension has loadings on Hy, D, and Hs--the neuroticism scales of the MMPI. Welch has labelled this replicated factor R. The third dimension, the vertical axis of the map, included loadings on Guilford's Social Introversion and Rhythmia as well as the MMPI Social Introversion scale. Clearly this is a dimension of self-reports of extraversion vs. introversion. The spherical model generated by these three factors has been sampled by a number of scales in some sectors but other sectors have not been investigated by these scales.

Many of the paternal behavior scales have loadings on the sector of severe maladjustment and introversion, and a few also have minor loadings on the neurotic repression factor.

Figure 4 shows the plot of the maternal behavior scales upon the configuration of self-reports of adjustment. Several of the maternal behavior scales plot between severe maladjustment and introversion and a few positive maternal behavior scales have negative loadings on neurotic repression.

Discussion

By constructing maps of spherical models for the domains of parent behavior and of self-reports of adjustment, we have attempted to present a synoptic view of the interrelationships of variables of these domains. Three major dimensions of parent behavior--Acceptance vs. Rejection,

Psychological Control and Lax vs. Firm Control--and three major dimensions of self-reports of adjustment--Severe Maladjustment, Neurotic Repression and Introversion vs. Extraversion--were described. It was shown that many sectors of the spaces framed by these factors are relatively unexplored. By plotting the loadings of the personality scales upon the parent behavior sphere and by plotting the loadings of parent behavior scales upon the personality sphere, we have determined the interrelationships of these two domains. We have seen that self-reports of maladjustment tend to be most highly related to a sector of parent behavior that falls between Psychological Control and Rejection. We have also seen that reports of deviant/parental behavior are most highly related to self-report of severe maladjustment and introversion.

These preliminary maps suggest the need to develop concepts that would explore the empty sectors of these conceptual spaces. Clearly we need more adequate samples, methods, and measures. Despite the limitations of these data, we have suggested that mapping conceptual spaces and mapping the projections of child variables upon a parent behavior sphere offers a promising approach to the integration of multivariate studies of parent-child relationships.

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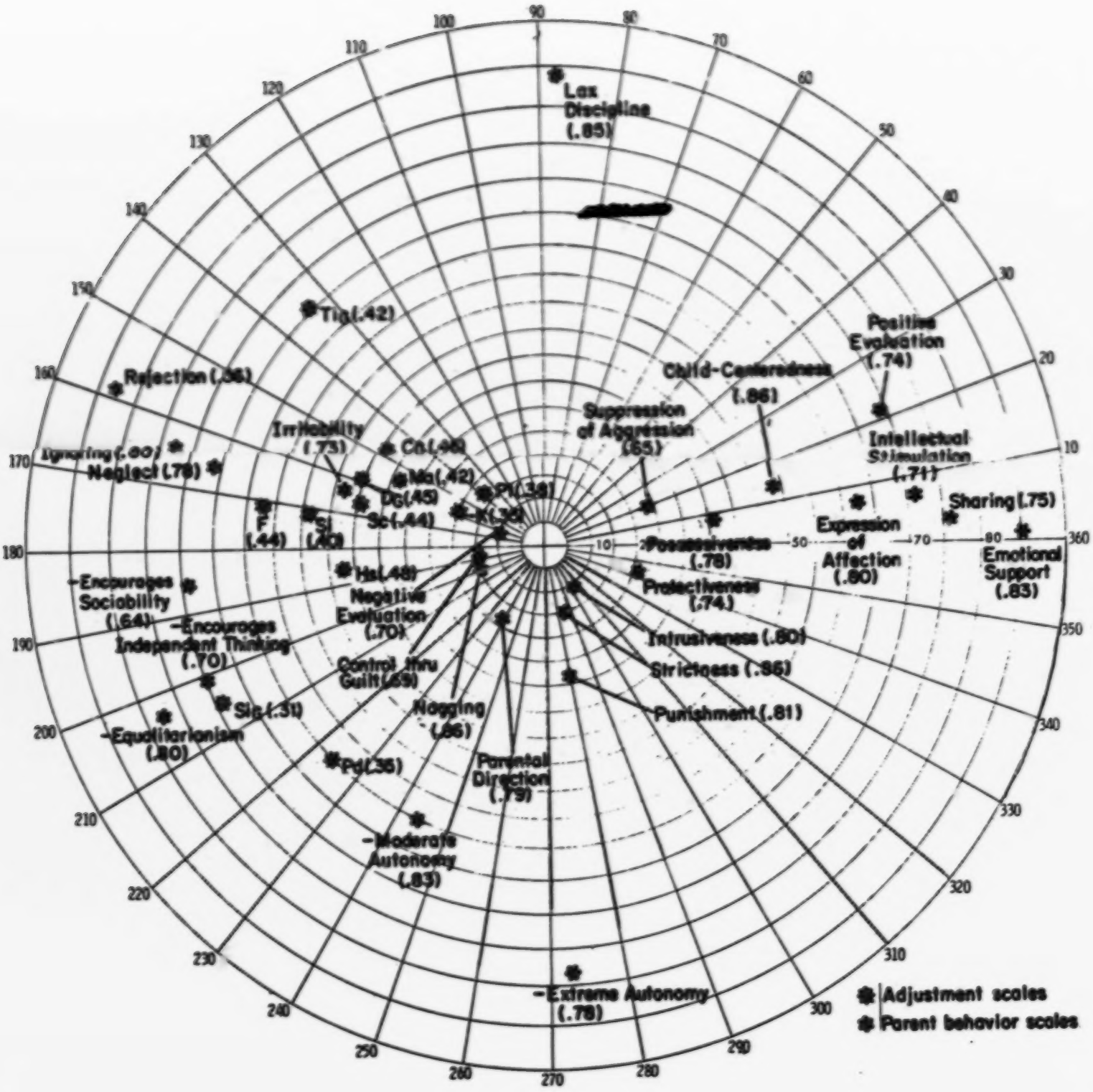
4. Projections of the maternal behavior scales upon the personality sphere.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Child-Centeredness (.86)
Suppression of Aggression (.65)
Intellectual Stimulation (.71)
Sharing (.75)
Expression of Affection (.80)
Emotional Support (.83)
Possessiveness (.78)
Protectiveness (.74)
Intrusiveness (.80)
Strictness (.86)
Punishment (.81)
Nagging (.86)
Parental Direction (.79)
Control thru Guilt (.69)
Negative Evaluation (.70)
-Encourages Sociability (.64)
-Encourages Independent Thinking (.70)
-Equalitarianism (.80)
-Moderate Autonomy (.83)
-Extreme Autonomy (.78)
Rejection (.86)
Irritability (.73)
Neglect (.78)
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Pd(.36)
Sc(.44)
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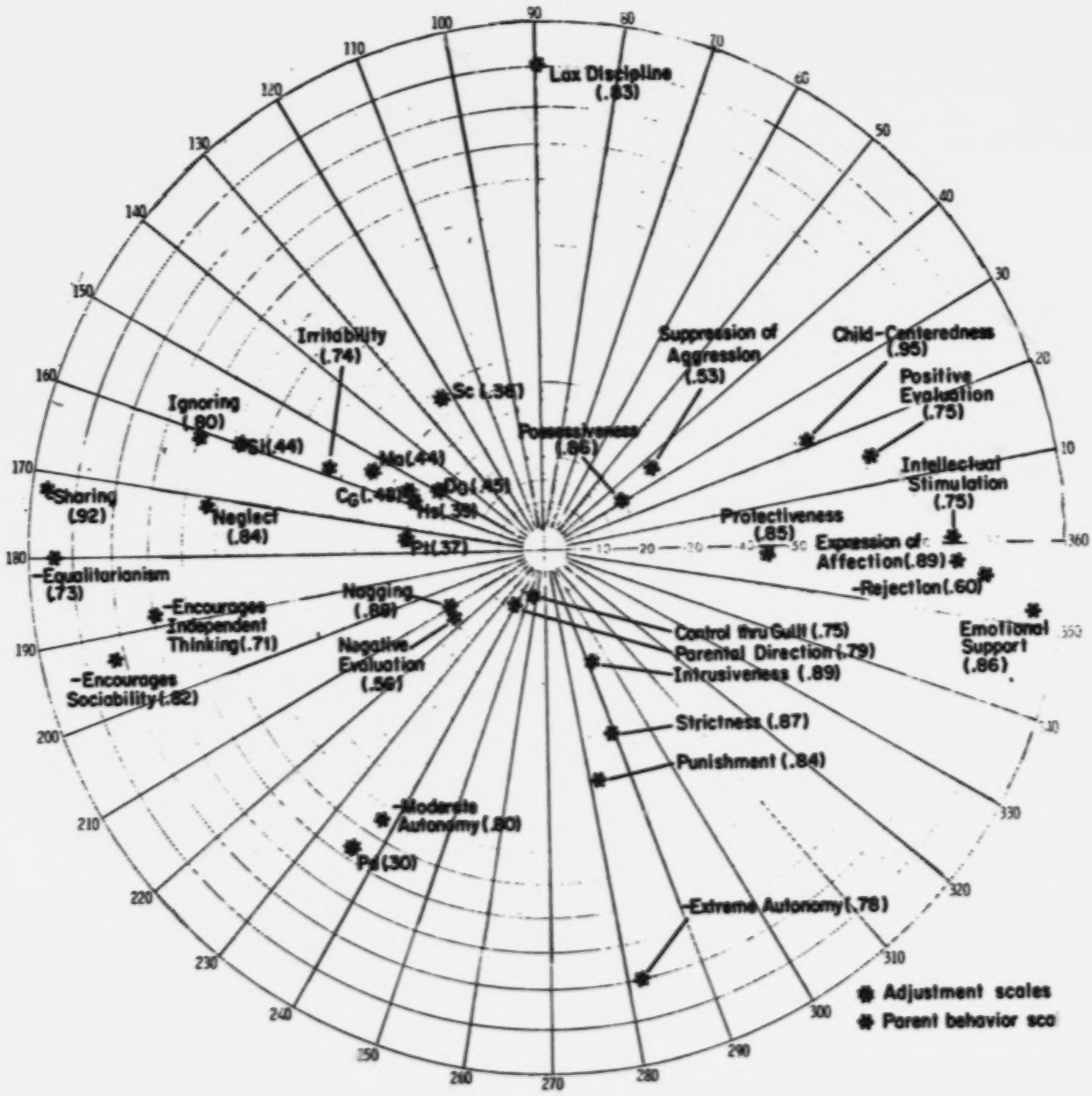
Ma(.42)
Pt(.38)
K(.36)
F (.44)
Si (.40)
Si(.31)
Adjustment scales
Parent behavior scales

Figure 1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Positive Evaluation (.75)
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Ignoring (.80)
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Hs (.39)
Pt (.37)
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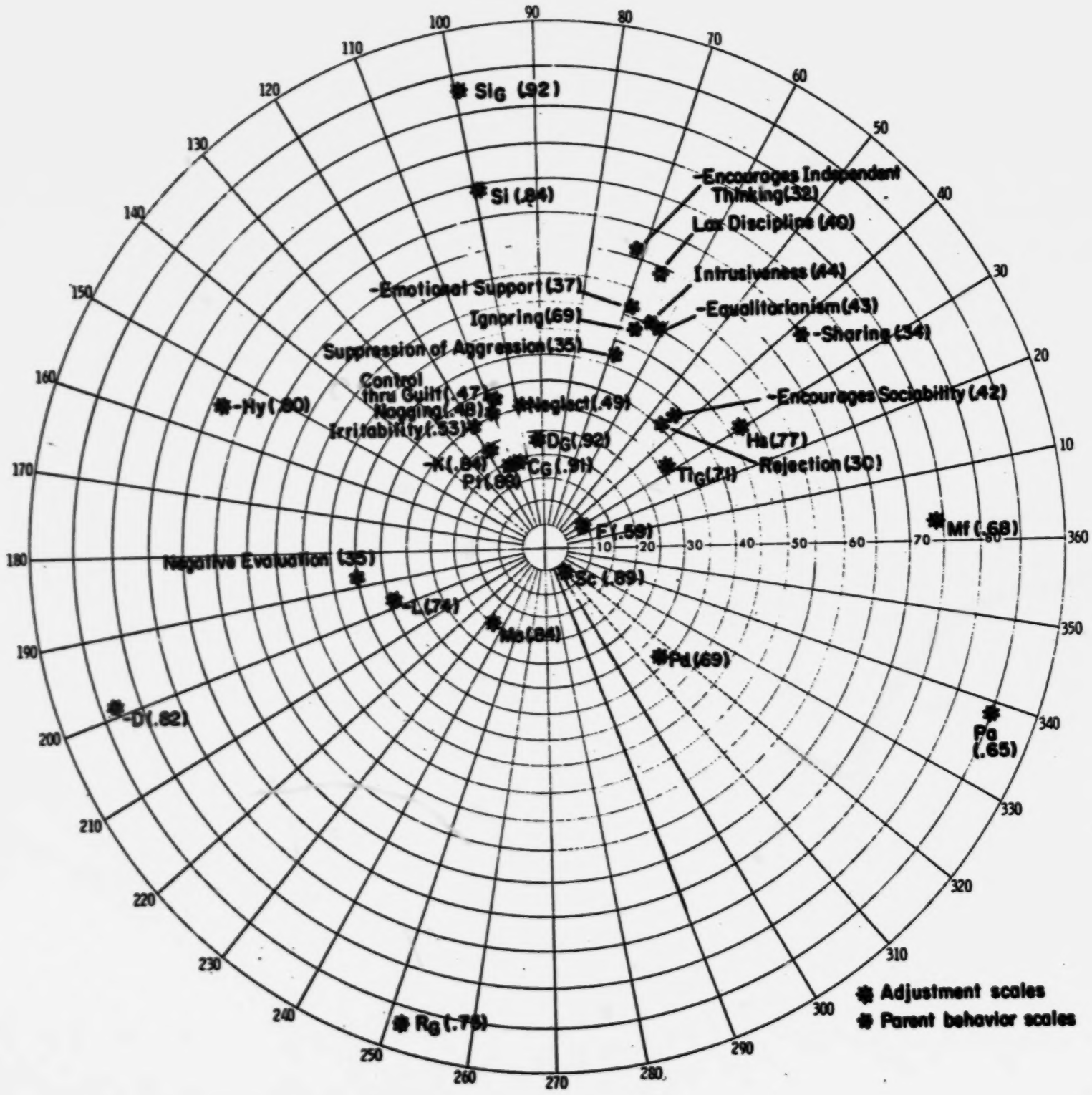
Adjustment scales
Parent behavior sca

Figure 2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Si (84)
-Encourages Independent Thinking(32)
Lax Discipline (40)
Intrusiveness (44)
-Emotional Support (37)
-Equalitarianism(43)
Ignoring(69)
-Sharing (54)
Suppression of Aggression(35)
Control thru Guilt(.47)
Nagging(.48)
Irritability(.33)
Neglect(.49)
-Encourages Sociability (42)
-Hy (.80)
Dg(.92)
Hs(77)
-K(.84)
Cg(.91)
Rejection (30)
Pt(.88)
Hic(71)
Mf (.68)
Fl(.59)
Negative Evaluation (35)
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Ma(84)
Pd(69)
-D(.82)
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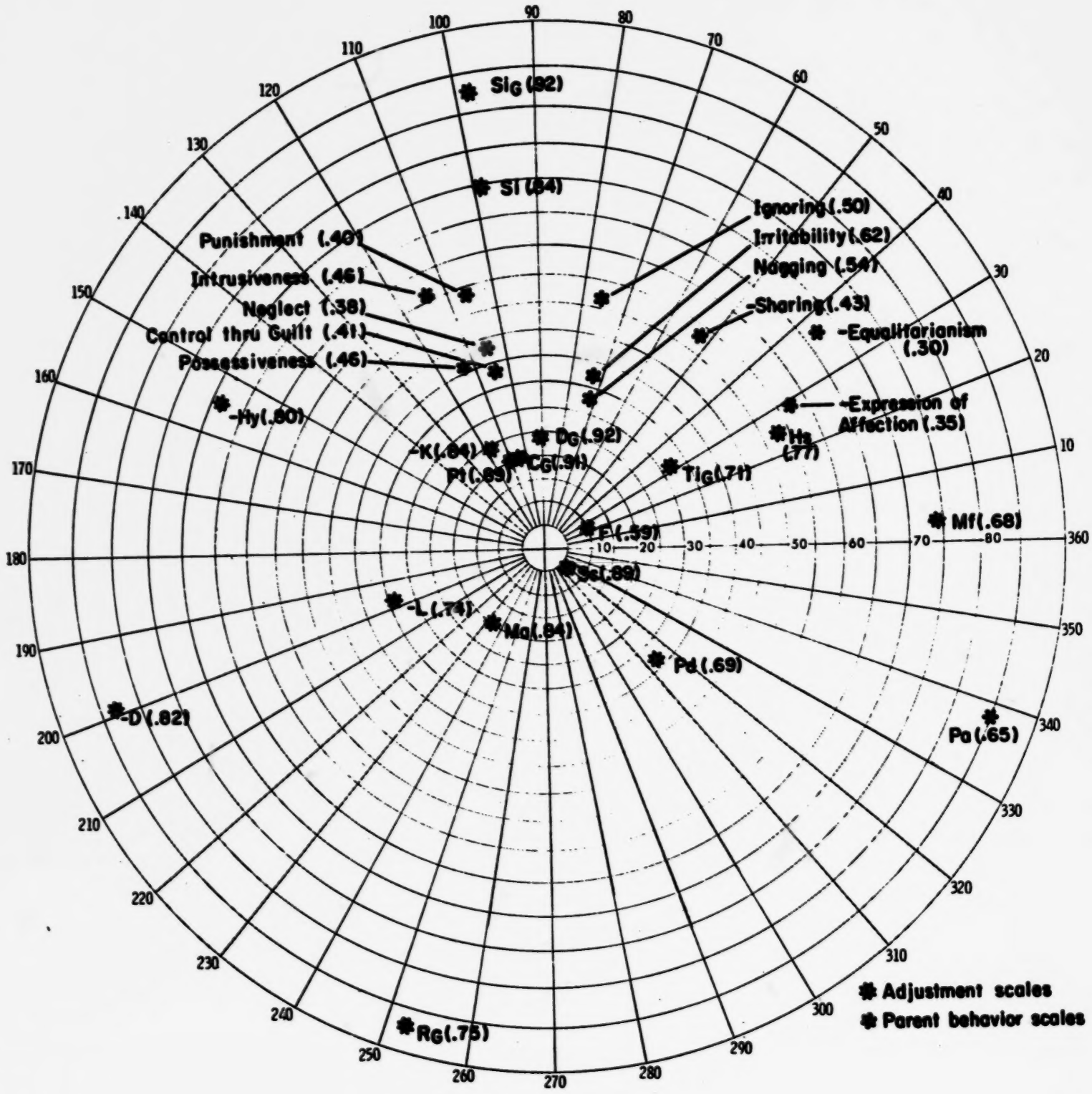
Adjustment scales
Parent behavior scales

Figure 3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Adjustment scales
Parent behavior scales

Figure 4